Accelerator Division EH&S Highlights
January 2003

Forklift Availability in Jeopardy
The Industrial Safety Group has rising concerns regarding forklift availability. Forklifts are old and parts are scarce. Repairs are projected to take longer and will be more expensive. A recent forklift vendor's bankruptcy has exacerbated this situation. Five forklifts used by key work groups at JLab will be affected.

Propane Heater Causes Carbon Monoxide Concerns
The Industrial Hygiene Group responded to an odor complaint in the BSY Service Building the last week in January. They traced the problem back to a propane heater used in Bldg. 98 that was inadequately ventilated. The build up of carbon monoxide (CO) in the BSY Service Building and adjacent areas caused workers in these areas to develop headaches, nausea, and eye irritation. All affected employees were counseled by Medical Services and given printed information about the toxicology of exposure. The number of potentially exposed workers was 18, of which 15 had symptoms. All symptoms have resolved, and no further follow up was needed. Jennifer Williams is preparing a Notable Event Report on the incident.

Employee Concern Regarding Electrostatic Discharge Footwear (ESD)
Employee from Cryogenics group submitted an employee concern relating to electric shock potential associated with electrical work performed while wearing anti-static shoes supplied through our Jlab Safety Shoe Program. The Industrial Safety Group is investigating. An EHSLOG was generated communicating the concern. The American National Standards Institute (ANSI) on Electrostatic Discharge (ESD) footwear states that, ESD footwear are "...primarily used in computer or high tech industry ... to reduce product damage ...resulting from sparking or static electricity." The minimum resistance level with these shoes is 1 megohm. This level is intended to reduce the potential for electric shock." "It is advisable however, if there is the potential for electric shock in a work environment that ... ESD would not be recommended ..." The Industrial Safety group will follow up with JLab's safety shoes supplier.

RadCon Computer-Based Training
RadCon switched over to computer-based training (CBT) and testing for GERT and for RadWorker I training. This switch caused problems for our subcontractor clientele. As a compromise, RadCon has agreed to hold quarterly full classroom RadWorker I Training sessions to facilitate subcontractor training. They will also update and clarify the current RadCon training policy.

Hall A High Power Beam Dump Tunnel Dehumidifier Evaluation
The RadCon Group will assist Facilities Management with the Hall A High Power Beam Dump Tunnel Dehumidifier evaluation and repair in February during the accelerator shutdown.

New Employee Confused By JLab LOTO Requirements
A new employee with EESDC took LOTO training in January. He came to the Safety Lab a couple weeks later for further information, and did not seem to understand why he could not work under someone else's lock. He also showed confusion about whether he

could cut off someone's lock if that person was out for vacation. The Industrial Hygiene Group notified his supervisor, who confirmed that he also noticed that the employee did not understand the basics. The supervisor terminated the employee's LOTO qualifications. The employee was referred to Eric Hanson for one-on-one requalification.

EEL Odor Complaint
The Source Lab in B90 was baking out vacuum components. The components were heated to 250 C for 12 hours. Occupants of the building complained of odor coming from the room. The Industrial Hygiene (IH) Group investigated and found that:

- The main source of the odor was a wood block that was left in the chamber and it was charred.
- The heat tape used to seal the chamber was not rated for 250 C. It will burn and off-gas.

The IH Group recommended that local exhaust be installed for the vacuum bake stations in the room, and that a tape suitable for high temperatures be used.

ISMS Principles & Core Functions Added to Tracking System
In response to the Lab Director's email asking that, as part of accident/incident investigations, we evaluate the event against the Integrated Safety Management System (ISMS) guiding principles and core functions, the EH&S T3 Group added a table for ISMS Principles and included the core functions in the table of causes. For tracking purposes, accident/incident investigators are required to identify a corresponding ISMS principle and core function for each cause leading to a corrective action and/or lesson learned.

Golf Cart Vandalized
A golf cart was vandalized the middle of January. The cart was driven into a concrete wall with resulting damage to the front end. The key to the cart was missing. The responsible party has not been identified.

RadCon Training For Newport News Fire Department
Fire Department personnel were on Tuesday, the 21st and Wednesday 22nd for special training and familiarization with unique aspects of JLab radiological contamination controls. Training was arranged by Tom Hassler and provided by RadCon technicians Scott, Keith, and Zach.

ODH Update
The Industrial Hygiene (IH) Group followed up on concerns raised about over-conservative cryogenic equipment rates as listed in the current EHS Manual. The rates in JLab's Chapter 6500, *Cryongenic and ODH Safety,* were originally based upon Fermi's research and rates used. The IH Group found that Brookhaven National Laboratory had challenged Fermi Lab in 2000, to provide less conservative ODH equipment failure rates. Further investigation revealed that Fermi Lab reissued cryogenic equipment failure rates in 2001, and modified their EHS manual to reflect those changes. However, Fermi's on-line version of the chapter was never updated. The IH Group received these changes and the documented rationale. After meeting with Claus Rode, Will Oren, and Dana Arenius,

they agreed upon an updated JLab failure rate table. The rationale for the table will be documented by Dana Arenius.

RadCon Group Manager Consulting Activities
Bob May traveled to ANL to participate in a Price Anderson Amendments Act (PAAA) peer review of the radiation control program. The review ran through Jan. 24th. Bob also attended the mid-year Health Physics Society Meeting in San Antonio, where he provided a copy of his ANSI chapter.

USPAS Course: Safety Systems & Systems Safety
The SSG and EH&S T3 Group Leaders presented a one week course on safety systems design and systems safety at the US Particle Accelerator School held in Baton Rouge, LA. Fourteen students attended the class. The class mix included 6 students from DOE (ORNL, LBNL, FERMI, LANL), 2 from University of Charleston, 3 from the Naval Research Lab, 2 from the UK (Diamond Light Source & CLRC Daresbury Lab), and 1 from the Polytechnic of Turin and CERN. [Note: The student from the Diamond Light Source actually worked on building our Helios]. The course received high praise from the students and the USPAS Director, Helmut Wiedermann, informed us that he would like to offer the course again within the next year.

Inspection/Investigation Checklists
The EH&S T3 Group developed workplace inspection and accident/incident investigation checklists for use by the EH&S Department staff. These checklists focus on integrating the inspection/investigation process with the data entry, tracking, feedback, follow up, and continuous improvement aspects of bringing open issues to timely closure.

EH&S Department Space Utilization Task Force
The EH&S Department 2002 Line Self Assessment identified an improvement action plan regarding training space utilization. Specifically, the department proposed to reevaluate departmental space presently allocated for training in light of the shifts away from classroom training to CBT. The Space Utilization Task Force was appointed by the EH&S Department Head on October 31, 2002, to carry out this evaluation. The task force submitted a report of their recommendations to the EH&S Department Head on January 31, 2003.

LOTO Event in Test Lab
On January 6, 2003, there was a LOTO event involving the intentional unauthorized removal of a maintenance LO/TO lock from a piece of electrical equipment. This unauthorized LO/TO lock removal took place in the Test Lab's Surface Science Lab. An event investigation was promptly conducted by Institute for SRF management with assistance from division EH&S staff. The event was screened for ORPS reporting in the safety & health and "near miss" categories. This event was not reportable under the safety & health category as the event investigation noted that there was no immediate personnel safety hazard. The event was also not reportable under the "near miss" category as the potential to create a reportable event (under the DOE ORPS criteria) was not present.

New Safety Coach/Technician Position
The EH&S Department developed a new position for a safety coach/technician whose duties entail promoting and facilitating familiarity and skill applying field-level task hazard analyses by the Accelerator Division workers and their direct supervisors, consistent with JLab EH&S Manual requirements. The safety coach position will be assigned to the Industrial Safety Group. The posted opening can be viewed at: http://jlab.recruitmax.com/candidate/jobs.cfm?szTemplate=3&szOrderID=377&szCandidateID=0.

CANS System Operational in the R&D and Production Chemistry Rooms
In order gain access into the R&D and Production Chemistry rooms, there are 3 training requirements:

- HF first aid
- Chemistry Room Safe Use Training
- Safety Walkthrough (conducted by the Safety Warden)

In addition**,** for the Production Chemistry Room, John Mammosser must approve requests for access. In these rooms, activating the safety shower/eyewashes will trigger automatic pages to emergency responders, and the guard will summon EMS within 60 seconds if not notified of a false alarm.

Suitable FEL Penetrations Plugging Material Identified
Thanks to Dave Kausch, a suitable replacement has been found for the carpet padding used for temporary plugging of penetrations in the FEL. The product is a dense foam "firebrick", manufactured by Hilte. The material should be impervious to helium, but this will need to be verified by a helium leak test at some point after installation.

Physics Division
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For the month – The Hall C G0 engineering run and experimental equipment readiness for beam delivery to Hall A for Experiment E01-012 and Hall B for Experiment e1 were major division priorities.

Experimental Readiness and Work Control Documents

Reference Jefferson Lab EH&S Manual Chapter 3120 – Experimental Review, and Chapter 3320 - Temporary Work Permits.

There was one new Operational Safety Procedures given final approval.

PHY-03-001 "Cable Shaft Hall C" Hall C Group / Hall C

There were two new Temporary Operational Safety Procedures given final approval.

PHY-03-001 "Rich Detector Testing" Hall A Group / EEL

PHY-03-002 "HyCal Cooling Plates Pressure Test" Hall B Group / Building 72

There was one experiment review on January 27 - 28, a *Technical Review for the* Q^{p}_{weak} *Experiment: E02-020.* This was the first project management and technical design review for the Hall C experiment which is expected to be ready in 2006. The review committee had seven external JLab members, division EH&S, and was chaired by David Cassel of Cornell University.

There was no new Experiment Readiness Certificates or Standard Operating Procedures.

Inspections

Reference Jefferson Lab EH&S Manual Chapter 5100 - Internal Inspections.

Five scheduled formal inspections identified no new recordable action items. The *Laboratory Director, Christoph Leemann*, and the *Area Safety Warden, Brian Kross*, accompanied the division EH&S staff on one of the inspections of Experimental Equipment Laboratory.

The Office of Assessment finalized the *Independent Assessment Report of the Physics Division Polarized Target Group*. The assessment spanned the period October 1 to December 2, 2002. In this report, there were *eight* polarized target group and *six* general *recommendations.*

Physics Division
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continued

Area Safety Warden Meeting

Reference Jefferson Lab EH&S Manual Chapter 2220 – Landlord and Tenant EH&S Responsibilities.

The 39th consecutive *Quarterly Area Safety Wardens Meeting* was conducted on January 8, 2003.

There were four guests: *Office of Assessment Director, Jim Murphy, Patty Hunt, Jennifer Williams and Christine Krasche of the Accelerator EH&S Group.* Thirteen of nineteen wardens and alternates attended, four were excused and two absent.

Among the ten agenda items: a hands on demonstration of the laboratory material safety data sheet systems by industrial hygiene staff and the *2002 Physics Division EH&S Inspection and Injury / Illness Summary Report* which was communicated by division EH&S staff.

END

EH&S Reporting Activities for January 2003

- As of January 31st, there have been **176** days without a lost-time injury. The Lab record is **455** consecutive days without a lost-time injury.

  A Facilities Management Department subcontractor (MRI) employee had a recordable eye injury on January 23, although safety glasses were being used. There were no lost or restricted workdays associated with this injury.

- The CY 2002 OSHA 300 Forms for JLab staff, service subcontractors, and construction subcontractors were prepared and posted in January. New OSHA Recordkeeping regulations require posting from February through April rather than the previous posting period for the month of February. A summary of CY 2002 recordable injuries/illnesses is attached.

- **Occurrence Reporting**
  - The Final Report for the October Vertical Test Area lockout/tagout "near miss" occurrence was approved by line management and provided to the DOE ORPS system. The Final Report has been approved by the DOE Site Office. All related corrective actions have been completed.
  - DOE Site Office and Office of Assessment staff participated in a January 22nd DOE-wide videoconference on the draft Occurrence Reporting order. The draft order provides five proposed reporting levels versus the current three levels (Off-Normal, Unusual Occurrence, and Emergency). The proposed reporting criteria would increase JLab reporting by 50% - 100%.

    EH&S Reporting began an impact analysis of additional requirements of the draft order. The assistance of Information Resources (Chief Financial Officer) staff in reviewing draft occurrence investigation document records retention requirements is appreciated.

- Office of Assessment staff participated in a January 30th conference call on a current National Laboratory Improvement Council (NLIC) initiative. The NLIC initiative is related to developing an improved format for quarterly EH&S and operational event summaries. These summaries are provided to Dr. Ray Orbach, Office of Science (SC) Director. Nine of the ten SC laboratories participated in the conference call that was coordinated by Oak Ridge National Laboratory EH&S/QA Director, Kelly Beierschmitt.

- **Work Smart Standards (WSS) Set**

  - Proposed 2002 changes to the WSS Set, including the proposed addition of a local terrorist response plan, have entered the WSS change process.
  - EH&S Reporting is working with the Policy and Manuals Group to ensure new or modified hazards or standards become addressed appropriately in the EH&S Manual.

- **National Environmental Policy Act (NEPA)**

  - CEBAF and FEL Upgrade Environmental Assessment (EA)

    - The DOE Site Office is finalizing the team charter.
    - Proposed Action/Project Information Checklists are being prepared. The initial draft checklists for the CHL Facility Expansion and the new Shipping and Receiving/Warehouse Building are available for line management input.

  - EH&S Reporting is working with other laboratory staff to address other NEPA items.

- The requirement for a subcontractor to have an Environmental Protection Plan was added to the Chiller Plant Expansion - Test Lab project. The opportunities identified by EH&S Reporting were adopted by the subcontractor and document a commitment to protect the environment.

Attachment